Thisness

It might well seem that individuals of some kinds have haecceitas or thisness, which makes them different, from other individuals of those kinds otherwise indistinguishable from them, whereas individuals of other kinds do not have thisness. I begin this paper by making the notion of thisness more precise. I go on to consider whether it has application, and if so to individuals of which kinds, concentrating my discussion on the issue of whether material objects have thisness. I conclude by considering different accounts of what thisness amounts to. Inevitably, my discussions of some of these issues is going to involve other central philosophical questions, such as the questions of personal identity and the nature of time, which a paper such as this cannot discuss adequately; but what I seek to do is to show how different answers to such questions are connected to each other and to the question of the nature of material objects by the central notion of thisness.

I

An individual has thisness in the sense at which I am aiming if a very strong form of the principle of the identity of indiscernibles does not apply to individuals of that kind. The principle states that two individuals are the same if they have all the same properties; but takes different forms according to what is allowed to constitute a property. I distinguish monadic properties, as those which pertain to individuals however they are related to individuals, from relational properties. Among relational properties I distinguish general ones, which R.M. Adams calls "suchnesses",[1] ones which do not involve a relation to particular individuals, from particular ones which do. Thus

being square or yellow are monadic properties; being ten foot away from a round steel ball or living in a big city are general relational properties; and living in London or being identical with a are particular relational properties. "General properties" covers both monadic and general relational properties. Properties, general and relational, may be hard or soft. A hard property is one which belongs to an individual at a certain time solely in virtue of how things are with that individual at that time. A soft property is one which belongs to an individual at a time in virtue of how things are with the individual at other times. A soft future-related property is one which belongs to an individual at t in virtue of how things will be with that individual at times later than t. A soft past-related property is one which belongs to an individual at t in virtue of how things were with that individual at times earlier than t. These distinctions among kinds of property give rise to many different forms of the principle of the identity of indiscernibles.

In my descriptions and subsequent discussions of these forms all properties of the above kinds will count as properties except the properties of being identical with named individuals (or properties which are truth-functions of such properties). I ignore these latter 'properties' because the whole point of a principle of the identity of indiscernibles is to analyse the identity or distinctness of individuals in terms of other properties which they possess. I now distinguish six forms of the principle useful for my purposes. They concern the identity of two individuals at a time. I assume - by the necessity of identity - that if two individuals are the same at one time, they

are the same at all times. The principles are modal principles concerning the identity of possible as well as actual individuals.

[A] Any two individuals who have all the same properties are the same individual.

[B] Any two individuals who have all the same hard and past-related soft properties are the same individual.

[C] Any two individuals who have all the same hard properties are the same individual.

[D] Any two individuals who have all the same general hard and past-related soft properties are the same individual.

[E] Any two individuals who have all the same general hard properties are the same individual.

[F] Any two individuals who have all the same general hard monadic properties are the same individual.

These forms of the principle are clearly not the only ones possible, but they are the only ones to have been seriously entertained; and they are-roughly-in order of increasing strength.

There may well be kinds to whose individuation the strongest from, [F], applies. Aquinas claims that [F] is true of God. Any individual who had the divine properties of omnipotence, omniscience etc would be the same individual; in other words, there could not be a possible universe in which a different individual was God[2]. But clearly this principle does not apply to individuals which have spatial relations to other individuals. Two qualitatively identical steel balls would not be the same if

they differed in their spatial relations to other distinguishable individuals. [D] differs from [E], and [B] from [C] by weakening the latter form to require sameness of part history.

[E], and its weaker form [D], claim that mere general properties (monadic and relational) suffice to individuate. [E] is plausible for abstract objects - e.g. numbers. Two integers, each of which was >7 and <9 (7 and 9 also being distinguished by their general properties) would be the same integer. It applies too surely to laws of nature, in the sense of principles determining the behaviour of objects (rather than the sentences which state them). Two laws which had the same general properties - of causing any (actual or possible) objects of such and such kinds to do so and so in circumstances of such and such kinds would be the same law. If Heisenberg's laws of quantum theory are equivalent to Schrodinger's in the sense they have the same consequences for physical objects, they are the same laws.

Symmetrical universes do however seem to present an obstacle to the suggestion that [E] applies to material objects, and the obstacle applies to [D] as well. "Isn't it logically possible that the universe should have contained nothing but two exactly similar spheres?" asked Max Black.[3] Each would be of the same size, shape, "made of chemically pure iron", at a distance of two miles from a sphere of that kind, and-we may add- with a qualitatively similar history; and yet the two spheres would be different.

This consideration moves us, for material objects in the direction of the weaker forms [C] and [B] as the strongest which can be asserted. Each individual in a symmetrical universe would, by principle [C], be a different individual in virtue of

being differently related spatially to a different individual. Thus iron sphere a would have the property of being two miles away from iron sphere b; whereas iron sphere b would not have that property, but would have instead the property of being two miles away from iron sphere a. Hence they would be different.

Yet although [C] is a different principle from [E], its consequences for material objects - barring a counter move to be considered below - and so the objections to it are the exactly the same. For since on [C] it suffices to make a the particular iron sphere it is that it has the same general monadic properties and also be two miles away from b, it follows that any other sphere with the same general monadic properties substituted for it in that place would be the same iron sphere. By a similar argument any similar iron sphere substituted for b would be the same iron sphere as b. Hence [C] individuates in this example in exactly the same way as [E], and so [B] individuates in exactly the same way as [D], and so the objections to them remain. If two iron spheres two miles away from each other came out, implausibly, the same on [E] or [D], they will come out the same on [C] or [B]. But [A] differs from [B] only in allowing that future-related soft properties might make all the difference. Yet that is not plausible. Two individuals can only have a different future history (e.g. one cease to exist at t, and the other continue to exist after t) if there are already two individuals distinct in virtue of other considerations, who might subsequently have different histories.[4] If we accept that the two qualitatively identical iron spheres two miles away from each other in an otherwise empty universe are different, we are forced to deny that even [A] has application to them. To say that

individuals have thisness in the sense to which philosophers who have used the notion were doing is, I suggest, just to say that form [A] does not apply to them. There can be distinct individuals which have all the same properties; when that is so, the individuals are distinct in virtue of something other than any properties (in the sense which I have carefully distinguished) which they might have. It is something intrinsic and unrecognizable via properties and I call it - I suggest -in conformity with tradition - thisness. On one interpretation of Locke's account of 'substance', it is the substratum in which properties inhere, and thus provides the individuating Thisness.

Material objects are obviously, unlike abstract objects, a plausible candidate for having thisness - but there are difficulties with their candidature, to which I will come in due course. To my mind the most plausible candidate for a kind of individual which has thisness is human persons (whether or not we regard them as a species of material objects; or as being essentially immaterial souls having bodies as parts of them only accidentally), and any other animate (i.e. conscious) beings there may be. The world could have been such that a human was born to my parents who all the same general qualities and relations as myself - the same bodily constitution and history (however individuated) and the same conscious mental life - described in general terms e.g. a pain followed by a thought that people were hostile, followed by a blue image etc. That human could also have had all the same particular relational properties, e.g. being born of particular individuals X and Y at time t (however these are individualised). And yet that person could have been quite different from myself. This view of mine

that this is so is of course highly controversial.

If despite the considerations mentioned so far one does not affirm thisness of material objects in general or human persons in particular and claims that some form of the principle of the identity of indiscernibles applies to them, clearly a form which brings in past-related properties is to be preferred to one which does not. For spatio-temporal continuity with earlier objects is clearly crucial for identity; an iron sphere at t which was spatio-temporally continuous with a certain earlier iron sphere would be a different iron sphere from one not having such continuity. If iron spheres have thisness, their spatio-temporal continuity will be a consequence of their having the same thisness; and an explanation will need to be given of why that consequence follows - we will come to that issue in due course. And similarily for the physical and psychological continuity which are important for personal identity. So given the irrelevance of future-related soft properties, and the implausibility here of [F], the choice will lie between [B] and [D]; but, for reasons given earlier and barring a consideration to which we will come shortly, the weaker form has the same consequence as the stronger form, and hence we could affirm the stronger form [B] if we were unwilling to affirm thisness of material objects.

II

Does thisness exist? I have argued that material objects and human persons (whether or not the latter are material objects and material objects have thisness) are plausible candidates for having it, whereas abstract objects and laws of nature are not. What about other non-abstract individual things - times, places,

and occupants of space other than material objects? Times (whether instants or periods) could not but have the temporal relations to other times that they do, and surely any time which has the same temporal relations as 1990 would be 1990. There couldn't be a different year which occurred after 1989 and before 1991, so [A] must be time of times. And since its past suffices uniquely to identify a time, [B] too applies. [C] does not hold - for it would imply that times can be uniquely identified by what is happening at them, and that is not so - it's not what happens in 1990 that makes it 1990; unless it occurs after 1989, it isn't 1990. A fortiora, [E] and [F] do not apply. The contestable one is [D]. If [D] is true of times, any year at which the story of the Universe reached a certain stage would be the same year; years are the years they are in virtue of what happened at them and earlier, and so the Universe couldn't have begun a year earlier than it did. I'm inclined to think that [D] is false, and so that [B] is the strongest that can be affirmed. To deny [B] is to hold in this respect an absolutist view of time; but it is not to ascribe thisness to times - you need to deny [A] to do that. Majority opinion does however tend to affirm [D] and is in this respect relativist. I do not need to argue whether [D] is true of times; but only to point out that the issue lies between [B] and [D] as the strongest principles which can be affirmed about time.

[A] and also [B] must hold for places. Given the past history of the Universe, there couldn't now be a different place from the place there now actually is six billion miles in a certain direction from the place actually occupied by the Sun. There couldn't be a Universe which differed from our universe

only in there being a different place there. [F] must be false - apart from its relations to other things, each place of a given size is the same as every other. The issue lies first between [B] and [C] on the one hand, and [D] and [E] on the other as the strongest principles. To deny the latter is to hold in this respect an absolutist view of space; for it has the consequence that everything would occupy a different place if the whole Universe were moved a mile to the right. On such an absolutist view the past history of places seems irrelevant to their being the places they are, and so [C] is to be preferred to [B]. To affirm [D] or [E] is to hold in this respect a relativist view. Places are the places they are in virtue of their relations to things having distinguishable qualities; but places themselves having no distinguishable qualities, that means their relations to things of other kinds, e.g. material objects. But there couldn't be a different place which had exactly the same relations to contemporary material objects or other occupants of space. Hence, on a relativist view too, the past is irrelevant; [E] is to be preferred to [D]. So the choice lies between [C] and [E] as the strongest principles which can be affirmed for places. In this case my own preference is for the relativist position - [E].

So neither times nor places have thisness. What this amounts to is that they are individuated by other things (be it other times or places or material objects); there is nothing intrinsic to each time or place which individuates it.

If one holds an absolutist view for either places or times in the senses defined above, then one can avoid the quick move from denying [D] for material objects, to affirming thisness of

them. For one could say that material objects identical in their general properties are individuated by their relations, not to other material objects (which I assumed earlier to be the only possibility) but to places - since these on this absolutist view of space would not be individuated solely by their relations to material objects. The two iron spheres could differ in that at one time one was at one absolute place, and the other at another, and that would be a real difference. Likewise, given an absolutist view of time, there would be a difference between one iron sphere existing for just one hour in an otherwise solitary universe and another one if one existed at one absolute time and the other existed at a different absolute time. On either of these two suppositions, [B] would be a serious possibility for material objects.

What about occupants of space other than material objects? A different account might be given for different objects. But let's consider to begin with fields of force and chunks of energy (as represented in pre-Quantum theory physics), and as a paradigm care of such magnetic fields. [F] is not plausible for magnetic fields. There could be two different fields of the same shape and strength yet differing by their spatial relations to other things. By contrast, [A] must hold. You couldn't substitute for a certain magnetic field at a certain place and time a different field of the same shape and strength. Magnetic fields don't have thisness. [B] seems preferable here to [C], and [D] to [E] - for past history seems relevant; whether this field is the same as that does involve whether it has the same continuity with past fields. The choice between [B] and [D] depends on which (if any) form of the principle applies to other

things - material objects, places, and times. If material objects are what they are simply in virtue of their general properties, then a more absolute doctrine can hardly be held for magnetic fields. Hence [D] can be affirmed. Yet if material objects are what they are either because intrinsically they have thisness or because of the absolute places or times they occupy, then different relations to material objects, places or times will make for a distinction between magnetic fields also, making [B] the strongest principle affirmable of them.

Having softened up the reader by considering the easy case of pre-Quantum theory magnetic fields, we need next to look at what present day physics tells us to be the actual occupants of space on the small-scale. It claims that there are two sorts of fundamental particle out of which the physical universe is made - fermions (the building blocks of matter, such as electrons and protons) and bosons (the 'energy-exchange' particles, such as photons and gluons). Particles of both kinds are said to be "indistinguishable" and they are contrasted with larger objects which they compose, such as molecules of a gas which are said to be "distinguishable".[5] This distinction seems to amount to this. Consider two molecules at a time t_1, m_1, at place p_1 and m_2 at p_2. Then at later time t_2, there are two possible distinct states - the two molecules having remained in the same places {m_1 at p_1, m_2 at p_2} and the two molecules having exchanged places {m_1 at p_2, m_2 at p_1}. Contrast the case of the molecules with the case of two fundamental particles; then there are no two distinct states at the later time. In their case there is just the earlier state of a particle at p_1 and a particle at p_2, and the later similar state of a particle at p_1 and a particle at p_2. If

one assumes that distinct states are equiprobable, then assemblages of molecules will show different patterns of behaviour from assemblages of fundamental particles, and this is generally claimed to occur. Molecular gases obey the gas laws such as the Van Der Waals law and diffusion laws which would follow from their conformity to the Maxwell-Boltzmann statistics governing distinguishable molecules on the assumption of equiprobability of distinct states. On the other hand, the distribution of black body radiation would be explicable by the conformity of photons to the Bose-Einstein statistics governing indistinguishable particles, not subject to the Pauli exclusion principle, again on the assumption of the equiprobability of distinct states. The cohesive and electrical properties of metals are explicable by the conformity of electrons to the Fermi-Dirac statistics governing indistinguishable particles subject to the Pauli exclusion principle, again on the assumption of the equiprobability of distinct states. The hypotheses involved in the explanation of the cited phenomena, including the hypotheses of the equiprobability of distinct states are not of course necessary thisness, but simple hypotheses which have for that reason some probability of truth, a probability increased by their ability to explain the cited phenomena. There is therefore at first sight good, but not overwhelming reason to suppose molecules to be "distinguishable" and fundamental particles to be "indistinguishable".

Now "distinguishability" is a matter of there being a truth about which later object is the same as which earlier object. This would be satisfied either if objects have thisness or if objects are the objects they are in part in virtue of their past-

related soft properties. So molecules, it would appear, are indeed in the situation of material objects as considered so far- if they don't have thisness, then [D] is the strongest form of the principle which applies to them (barring an absolutist view of space). This is what we would expect since molecules, as depicted by modern science, are small material objects, the constituents of the larger ones which we see around us. The physicists' "distinguishability" of molecules confirms the account of material objects given so far.

But the "indistinguishability" of fundamental particles has the consequence that past history is irrelevant to their identity. There is no truth about whether this photon this week is the same as that photon last week; and that leaves us with the choice between [C] and [E] as the strongest principles affirmable for fundamental particles - [C] if weaker principles alone govern other things, such as material objects, relations to which would individuate particles; [E] if not.

Before we take what physics says about molecules and fundamental particles at its face value, we need to inquire how it can be that molecules (and larger material objects) which are composed of nothing but fundamental particles are distinguishable, whereas their components are indistinguishable. There seem two possible answers. The first and surely more physically orthodox solution is that the laws of physics have the consequence that fundamental particles will link up in such a way that large objects, including molecules, will be distinct from each other in their general hard properties, yet similar to objects at previous times in this respect - so that a natural scheme of identification with past objects presents itself. We

make continuity with past objects one of the criteria of identity of larger objects. It remains the case that there is no intrinsic difference between two iron balls of the same size and shape, yet almost invariably they are spatio-temporally continuous with balls of the same size having different spatial relations to objects with different hard properties. So we have a concept of material objects including molecules, in which [D] or perhaps [B] govern their individuation. But if that is the source of the diversity of material objects, they do not have thisness - if the components lack that, the whole cannot.

On this account the conformity of molecules and larger material objects to the Maxwell-Boltzmann statistics arises from the fact that when particles combine into larger objects, not all distinct states of such particles are equiprobable. Rather the only probable states are those which come out as equiprobable if you identify molecules as distinct if they have different relations of spatio-temporal continuity with past molecules. Conformity to Maxwell-Boltzmann statistics of larger-scale objects is a product of the combinations of (distingushable particles preferred by Quantum Theory.[6]

The alternative, and surely less orthodox solution to our problem, is that the problem does not exist - at least some fundamental particles really are distinguishable. There are indeed distinct states for (e.g.) photons, {photon$_1$ at p_1 and photon$_2$ at p_2} and {photon$_2$ at p_1 and photon$_1$ at p_2}, but they are not equiprobable states. Indeed one of such pairs is not a possible combination at all, because of the Quantum symmetry rules - "states with the wrong symmetry get eliminated because they are not accessible to the joint quantum system, not because

there are no such states" urge French and Redhead.[7]

If we accept this latter solution, then modern physics provides no objections to the arguments of earlier sections. Unless we are prepared to allow both absolute space and absolute time (in the senses earlier defined), then the logical possibility of symmetrical universes continues to provide a strong argument for material objects (and some of their fundamental particle components) having thisness. If we do allow both absolute space and time, then material objects can be individuated by their place and time; and there is no need then to postulate thisness.

But if we adopt the more orthodox solution, them, as we have seen, material objects cannot have thisness. And in that case symmetrical universes, such as the two iron sphere universes, though apparently logically possible, are not really so. How in that case has it come about that we have been deceived about the logical possibility? The most plausible answer must be that, although it is logically possible that iron spheres, or perhaps we should say objects qualitatively indistinguishable from iron spheres, have thisness and so there be a symmetrical universe; as a matter of fact iron spheres don't have thisness and so this universe couldn't be symmetrical. That does of course rule our certain apparently possible arrangements of the matter of this universe as really impossible, given what that matter is, for logical reasons. That could be right. The most obvious difficulty in the suggestion is that, close to the Big Bang, the universe was not very far off being symmetrical - it does seem very puzzling to suppose that having been totally symmetrical was ruled out by consideration, not of physics but

of logic. We seem to be able to conceive not just a universe at its beginning, but our universe at its beginning having been totally symmetrical. If this latter intuition is correct, considerations of logic then force us back to the less orthodox solution to the physical difficulty; and after all, there don't seem to be any empirical data disconfirming that - it just provided a less simple picture of the universe, to be preferred in the absence of logical difficulties, but not if there are such.

It is not merely material objects as such which provide a plausible case of individuals with thisness; but also human beings and any other animate beings there may be. Is it not logically possible - to use a different example from the one used before, but a familiar one - that after a brain operation in which a certain amount of my brain matter was removed, either that I survive and have certain experiences, or that I cease to be, while someone else has experiences qualitatively identical and connected to the same brain? Surely it is a factual matter whether I survive some brain operation, yet not one entailed by what happens to the brain matter and what experiences the subsequent person has. Yet if all else could be the same, and yet either I survive or I don't, it must be something other than my properties which makes an individual me - viz. thisness. Here the intuition of logical possibility is immensely stronger than in the two iron sphere case, because surviving is something of which we have experience from moment to moment; continuing to exist as an experiencing subject[8] is involved in all our temporally extended experiences - and all experiences are temporally extended - we have, and of our own experiences we have

as intimate an awareness as we can have of anything (and with respect to some of these an infallible awareness). Plausibly therefore if we don't know what we are conceiving here, viz. something which doesn't entail though it may normally accompany, the continuity of exactly so much brain matter, we don't know what we are conceiving about anything. If we can't make judgements of logical possibility here, we can't make such judgements anywhere; and if we can't do that, we can't do philosophy. Yet of the iron spheres we have only an external and fallible awareness, not an awareness of them as inhering in a continuing subject which experiences them intimately. Because our awareness is external and fallible, we could be mistaken in supposing there to be a something in which the general properties of the iron spheres inhere and which is distinct from them. Hence human beings (and any other animate beings) are far stronger candidates for having thisness than are material objects generally. Nevertheless the argument for their having thisness remains strong. The argument for human beings having thisness does of course move far too briefly over some well-worn and controversial philosophical territory; but I needed to bring it in, however briefly, in order to provide an overview of the plausible candidates for thisness and the issues involved in the candidature. I have nevertheless concentrated on the less discussed but more pervasive case of material objects.

III

So much for what it would be to have thisness and for the plausible candidates for having it. There are at least two different accounts in the history of philosophy of what 'thisness' amounts to, given the plausible hylemorphic theory -

that individuals are the individuals they are in virtue of the staff ('hyle') of which they are made, and the form or nature or essence ('morphe') imposed upon it. The difference between individuals which have thisness must be either in their stuff or in their form, or in some way in the uniting thereof. On an Aristotelian view ordinary physical matter is the only staff, and it is that which provides the principle of individuation. If the steel balls differ in thisness, that is because they are made of different matter. The difference between qualitatively identical chunks of matter is the ultimate intrinsic difference. If one allows the example of the two humans made of the same physical matter, yet differing, then given that stuff individuates, one must say that the stuff of which they are made is not just physical matter but soul-stuff and that's what differs.

A hylemorphic theory does however leave open the possibility of at least one quite different account of thisness. Maybe forms are not purely general essences, but individual essences. Maybe there's an essence not just of humanity or being a philospher, but of Socrates. 'Thisness' is of course the literal English translation of haecceitas, the word which Durns Scotus introduced into philosophy; that word is sometimes most unliterally translated "individual essence", and Scotus has been held to have introduced into ~~photosophy~~ philosophy the notion of individual essences. Maybe in effect he did, but the phenomenon of haecceitas to which he drew attention is to ~~the essence of Socrates is a particular restriction on the form~~ be distinguished from the account of it in terms of individual essence.

Scotus certainly taught that ordinary matter was too undifferentiated a thing to individuate; and while he also taught

that humans were made of soul-stuff as well as matter, and that angels were made of soul-stuff, he not think that any kind of stuff sufficed to individuate.[9] But there are different intepretations of the rival account which he gave; he may be unclear in his own mind, or his view may have changed over time. However, I put forward the important natural alternative to the view that matter individuates, as a very plausible interpretation of his view. Scotus says that neither matter, nor form, nor the composite individuates[10]; and I am interpreting his claim that form does not individuate, as the claim that no general properties individuate. The ultima realitas entis which does individuate is a particular restriction on the specific form; and I shall call that restriction the "individual essence". Its union with stuff brings into being particular individuals. Thus of humanity and its union with stuff gives rise to Socrates.

I find the individual essence account implausible for inanimate material objects; but if we allow that they have thisness, more plausible for human and other animate beings. Applied to inanimate material objects, it would have the consequence that this particular desk of mine, instead of being made in the way it was at the time it was from the matter it was might have been made from quite different matter somewhere else. It seems absurd to suppose that two such desks could have anything in common beyond their general from which made them the same desk. If material objects have thisness, we need a "thick" enough doctrine of matter to allow matter to individuate. If animate beings have a thisness which is independent of the physical matter of which they are made[12], it might be possible for soul-stuff to provide individuation. However it seems to be

of the essence of 'stuff' that it is divisible and combinable into chunks of different sizes; and that it doesn't naturally come into being or cease to exist - it continues to be, informed over time with different forms. So an account of the nature of animate beings which was grounded in a stuff with these properties would have to allow the possibility of fission and fusion of animate beings, embodied or disembodied, on a massive scale - dismebodied humans could all be fused into one super-humanity, in the way that lots of guns could be melted down to make a super-gun; and the soul-stuff would be always around in some animate form or other - immortality in some shape or form would be guaranteed!

Those of use who can give no sense to the application to animate beings of the notions of fission and fusion, let above some kind of necessary immortality - perhaps as part of a greater whole, cannot go along with the account of their individuation in terms of soul-stuff. But individuation by individual essence would have obvious application. Innumerable prince-and-pauper stories show that we can make sense of the same animate being animating quite different physical matter, as we cannot make sense of similar stories about desks; and if we rule out soul stuff as the principle of individuation, the obvious thing to say is that haecceitas is a restriction on the form. A form with its peculiar restriction can be instantiated in any matter. If we allow the logical possibility of the disembodied existence of animate beings, and continue to hold a hylemorphic theory, then that existence must consist in the instantiation of the form in soul-stuff. But the soul-stuff would not provide the principle of individuation; it would be an undifferentiated soul-stuff

which would not therefore allow the possibility of fission or fusion of individuals. Soul-stuff informed by the individual essence of Socrates would be Socrates; soul-stuff not so informed would not be Socrates - there would be no scope for intermediate positions. Individual essences, unlike stuff, cannot be split or combined.

The total difference of accounts of what constitutes the thisness of material objects and animate beings - if we allow that these have thisness, and that animate beings have a thisness which does not arise from the physical matter of which they are made - would enable us plausibly different answers to two further questions which arise. The first question is what determines the limits to the forms which individuals can acquire, i.e. to what kinds of beings individuals can become. My car could, I suggest, become a lorry, a boat, a gun, and indeed - given the transmutation of elements by a highly sophisticated energy process - a material object of any other kind. Any material object formed from the same matter would be an individual into which the original car had been transformed. If physical matter individuates material objects, that explains why such transformation is possible. Anything formed of and individuated by the same matter would be the original individual trans-formed. But my car could not be transformed into anything not individuated by matter. If humans are not so individuated, my car could not be transformed into a human being. If the matter of the car became the matter of a human being, it still would not be the matter which made it the human being it was; that matter would be accidental to the human being. And, a fortiori, there is an explanation of why my car cannot become 7 or the year 1990.

If animate beings are individuated by their individual essence, they must remain within the boundaries of the form of which the individual essence is a restriction. There is scope for difference about which form that is. If the individual essence of Socrates is a restriction of the form 'human being', then he cannot become anything other than a human being. But if that essence is a restriction of the form 'animate being', then he could become a crocodile. But neither way can he become a desk, let alone the year 1990. These limits to transformation are, I suggest, plausible, and follow from the difference of accounts of what individuates material objects and animate beings - if they have thisness and if the thisness of animate beings does not derive from physical matter.

The second question which arises, given these latter assumptions, is how thisness can account for the crucial role of spatio-temporal continuity in individuating material objects and animate beings. I wrote earlier vaguely of the 'crucial' and 'important' roles of this criterion; it is time to be more precise. I suggest that some sort of spatio-temporal continuity of m_1 with m_2 is a necessary condition for the material objects m_1 and m_2 being the same. (I have written 'some sort of' to allow very small spatio-temporal jumps of fundamental particles, in view of the peculiar nature of space on the very small scale, to be consistent with the preservation of spatio-temporal continuity by themselves and the larger objects which they compose.) Yet there is some plausibility, from prince and pauper stories, in supposing that for animate beings spatio-temporal continuity is good evidence of identity but not a necessary condition of it. If that intuition is correct, the different

accounts of wherein consists the thisness of the different kinds of objects can explain why it is correct. It is the nature of matter to occupy space, and it is essential for the sameness of a chunk of matter that it occupy (more or less) contiguous places at contiguous times. Our primitive understanding of matter is an understanding of a thing of that sort, and physics has refined but not abolished that understanding. But if animate beings are not individuated by physical matter or any sort of stuff but do have thisness[13] then there is no logical necessity for any kind of spatio-temporal continuity. All our evidence however is that when by other criteria (memory and character) two animate beings are the same, they are spatio-temporally continuous. That is good evidence that there is some sort of naturally necessary connection between the two, though not one which need hold under circumstances very different from those which provided the evidence of this connection.

Richard Swinburne

University of Oxford

NOTES

1. R.M. Adams, "Primitive Thisness and Primitive Identity", Journal of Philosophy, 1979, 76, 5-26. My discussion takes off from the distinctions and arguments of Adams's paper.

2. "God himself is his own nature... Hence to be God is to be this God" (idem est deus et hic deus), Summa Theologiae Ia.11.3.

3. Max Black, "The identity of Indiscernibles", Mind, 1952, 61, 153-164, see p.156.

4. For this argument, see Adams op.cit. pp.18f.

5. See (e.g.) A. Beiser, Concepts of Modern Physics, second edn., McGraw Hill, 1973, pp.287f. See (e.g.) chs.9 and 10 of this book on the experimental data referred to below.

6. Paul Teller, "Quantum Physics, The Identity of Indiscernibles and some Unanswered Questions", Philosophy of Science, 1983, 50, 309-319, urged that "according to Quantum Mechanics, two relatively large objects", unlike small objects, "are virtually certain, at any given time to exhibit distinct properties" (p.319).

7. S.French and M. Redhead, "Quantum Physics and the Identity of Indiscernibles", British Journal for the Philosophy of Science, 1988, 39, 233-246. See p.237.

8. This despite Hume's famous remark: 'When I enter most intimately into what I call myself, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never catch myself at any time without a perception' (Treatise of Human Nature, 1.4.6.). It may well be that Hume never catches himself without 'perception' (i.e. a conscious episode) but

his bare datum is not just 'perceptions'; he does not just observe perceptions at a distance and wonder whose they are. Rather his datum is successions of overlapping perceptions, experienced by a common subject, him who is also aware of them. He is aware of them as bound together by occurring to a common subject.

9. Duns Scotus discusses the question of what is the principle of individuation - what makes a thing 'this' and not 'that' - among other places, in Ordinatio II d.3 (volume VII of editions of the works of Scotus, published by the Scotistic Commission, Vatican City, 1950-). Q5 denies that matter individuates. For commentary see C.R.S. Harris, Duns Scotus, vol II, Clarendon Press, 1927, pp.92f.

10. See Ordinatio II d3, p.1 qq.5-6 n.187, and for commentary Harris pp.95f.

11. In II Sent d3, p.1 qq.5-6, nn.164-177 he explains that individual difference arises from a contraction of the specific form, like the way in which a generic form is contracted to a specific but unlike it in that what we are left with is no longer a universal. He seems unclear however whether that with which we are left can exist or in some sense be, without being united with matter, i.e. whether the essence of Socrates can exist without Socrates. I am interpreting him as supposing that it can. Elsewhere he claims that the distinction between the specific human nature and a haecceitas is a purely 'formal one'; not even God could separate them. That again supports the interpretation that haecceitas arises from a modification of the form. On this see F. Copleston, A History of

Philosophy, vol II, Augustine to Scotus, Burns and Oates, 1964, p.512, and the passages which he cites.

12. Aquinas had tried to individuate human souls by the bodies which they naturally occupied. They could be separated from their bodies, but the difference between them lay in the bodies with which they were fitted to be reunited (see his Summa Contra Gentiles, 2.81). Scotus objected that inclinations to occupy one body rather than another do not exist on their own ("inclinatio non est entitas absoluta"). There can't be "bare dispositions", to use a modern term; such inclinations presuppose a distinction between souls founded in some other way (Ordinatio d3 p1 q7 nn230-231). I don't find that argument too convincing, because it's not clear to me why there can't be bare dispositions. And Aquinas's account has more troubles. If souls are forms which can exist without bodies, distinguished by mere inclinations, and thus are in effect "individual essences" (through individuated by the physical matter towards which they have an inclination), then Aquinas has in fact abandoned the whole hylemorphic theory - for such "separated souls" are substances existing without doing so in virtue of being united with matter. Scotus preserved the hylemorphic theory by having soul-stuff, union with which is what constitutes their existence. Given that, there is no particular reason why a separated soul should not become united with a new body, as intuitively seems logically possible.

13. If they don't have thisness, then properties alone will individuate animate beings; and those properties must

include those properties which on the thisness account are evidence of the presence of the thisness - viz, sameness of memory and character and/or spatio-temporal continuity - i.e. past-related properties which led us to prefer form [B] of the Principle of Identity of Indiscernibles to form [C] for animate beings - see p.6.